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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,256	04/15/2004	Gabriel L. Suci	EH-10674 (04-184)	8118
34704	7590	09/13/2005	EXAMINER	
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			WIEHE, NATHANIEL EDWARD	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/825,256

Applicant(s)

SUCIU ET AL.

Examiner

Nathan Wiehe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-12 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 04152004.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 08252005.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-12, drawn to apparatus, classified in class 416, subclass 198A.
  - II. Claims 13-18, drawn to method, classified in class 416, subclass 198A.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions apparatus and method are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the claimed product can also be made by other processes including heat shrinking.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with William Slate on 25 August 2005 a provisional election was made with traverse to prosecute the invention of apparatus, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-18 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Information Disclosure Statement***

6. The information disclosure statement (IDS) submitted on 15 April 2004 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

***Specification***

7. The disclosure is objected to because of the following informalities:

In paragraph [0014] "rotors tack" should read --rotor stack--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lombard (CA 534,694). Lombard discloses a retainer segment, (27,28) including a first surface engaging a rotor stack (13A,13a-y,13B) and a second surface engaging the central shaft (10) that transmits a precompression force to the rotor stack in a turbine engine. Further, Lombard's retainer is located proximate to the forward end of the compressor stack, which lacks off-center tie rods.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2, 3, 6, 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lombard in view of Hackstie (5,161,951). Lombard discloses the invention substantially as claimed except for the use of a multi-segmented retainer located in a rebate on the shaft. Hackstie teaches the use of a segmented retainer (24) and collar (30) in a full annulus rebate (16) on the shaft (8) to retain a disk (9) in a gas turbine. Hackstie's collar (30) secures the retainer (24) against radial displacement. Also, Hackstie's rebate (16) has a forward surface (27), essentially radial and engaging retainer's second surface, an aft surface (25), and a base surface (not referenced). It would have been obvious to one of ordinary skill in the art at the time the invention was

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made to modify the retainer of Lombard by including a shaft rebate, collar, and retainer segments as taught by Hackstie in order to better secure the rotor stack on the shaft.

12. In regard to claim 8, Hackstie does not address the relative angle of the rebate's base surface. However, applicant has not disclosed that having a rearwardly divergent base surface solves any stated problem or is for any particular purpose. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the retainer of Lombard such that the rebate's base surface is essentially rearwardly divergent at a half angle in excess of  $5^{\circ}$  because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the modified retainer of Lombard.

13. In regard to claim 10, the modified invention of Lombard does not expressly disclose the precompression force transmitted to the rotor stack. However, applicant has stated that, "Advantageous force will depend upon the size of the rotor stack" (paragraph [0032]). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the retainer of Lombard to adjust the precompression force based on the specific size of the rotor stack because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the modified retainer of Lombard.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lombard in view of Hackstie as applied to claim 2 above, and further in view of an engineering expedient. The modified retainer of Lombard discloses the invention substantially as claimed except for the use of only two retainer segments. It is common practice in the

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art of gas turbines to provide segmented parts in two pieces to minimize installation time. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the retainer of Lombard by including only two segments as an engineering expedient.

### ***Allowable Subject Matter***

15. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Prior Art***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent issued to Adelizzi discloses a disk retainer located in a groove on the shaft of a turbine. The patent issued to Maghon discloses a retaining ring used in a gas turbine rotor. The patent issued to Bonner discloses a spacer element in a gas turbine that provides a compressive force on a rotor disk. The British patent issued to Kent shows the use of a retainer on a turbine compressor.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan Wiehe  
Examiner  
Art Unit 3745



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9/9/05